



Air Resources Board



Linda S. Adams
Secretary for
Environmental Protection

Mary D. Nichols, Chairman
1001 I Street • P.O. Box 2815
Sacramento, California 95812 • www.arb.ca.gov

Arnold Schwarzenegger
Governor

September 8, 2009

Dear Sir/Madam:

The purpose of this letter is to request an estimate of the increased manufacturing cost for installing an evaporative system on a vessel that will meet California's draft proposed requirements.

Background

On October 8, 2008, U.S. EPA published *Final Rule: Control of Emissions from Nonroad Spark-Ignition Engines and Equipment*, which set nationwide evaporative standards for Pleasure Craft. Because of California's severe air quality issues, we are seeking further emission reductions from Pleasure Craft to help attain air quality objectives. In February of 2009, Air Resources Board (ARB) staff presented a draft proposal that would set more stringent emissions standards. The proposal included a requirement for an On-Board Vapor Recovery (ORVR) system to capture refueling emissions.

Specific Request

At this time, ARB staff requests an estimate of the increased manufacturing cost in order to evaluate cost effectiveness and economic impacts. Specifically, we are requesting your increased manufacturing costs associated with producing a vessel that meets the proposed more stringent standards, which are enclosed for your reference.

We realize that any information you provide may be proprietary. We will keep the source of the information confidential if you check the confidentiality box on the survey form. Any confidential or proprietary information submitted will be handled in accordance with title 17, California Code of Regulations, section 91000, which specifies the requirements for handling confidential information submitted to public agencies.

Please assist us with our cost and impact analysis by completing and returning the enclosed survey sheet **by November 13, 2009**. We appreciate your participation. If you have any questions regarding this request, please contact Scott Monday at (916) 445-9319 or via email at smonday@arb.ca.gov, or contact Michele Dunlop at (916) 323-8971 or via email at mdunlop@arb.ca.gov.

Sincerely,

Jim Watson, Manager
Evaporative Control, Engineering, and Regulatory Development Section
Monitoring and Laboratory Division

Enclosures (3)

The energy challenge facing California is real. Every Californian needs to take immediate action to reduce energy consumption. For a list of simple ways you can reduce demand and cut your energy costs, see our website: <http://www.arb.ca.gov>.

California Environmental Protection Agency

ATTACHMENT 1 Pleasure Craft Evaporative System Cost Survey

Assistance requested: Please complete and return this survey table. California Air Resources Board (ARB) is asking boat builders to estimate the cost increase to equip Pleasure Craft with an ARB compliant evaporative system. Feel free to attach additional diagrams and/or descriptions along with the survey. See attachment for supplemental information regarding design requirements and ORVR specifications.

Company Name: _____ Contact's Name: _____

Date Completed: _____ Telephone Number: _____

Copy and fill out one (1) survey sheet for each category selected.

Select Pleasure Craft Category: ☐ Inboard ☐ Outboard ☐ Jet Drive ☐ Sterndrive

Estimated Total Number of Units Produced Per Year: _____ Number of Employees _____

Treat as Confidential Information: ☐ Yes ☐ No

Cost Breakdown for the Proposed Evaporative System	
List and describe all of the components in the proposed evaporative system ^{Note1}	Increased manufacturer's cost to meet ARB standards ^{Note2}
	\$
	\$
	\$
	\$
	\$
Labor	\$
System Total Cost	\$
Other Non-Component Costs:	

Note 1: All marine fuel system components must meet strict Coast Guard fire and safety requirements specified in 33 Code of Federal Regulations, Part 183.

Note 2: Increased manufacturer's cost refers to the difference in the costs to meet the ARB performance standard with an ORVR system versus a model that meets U.S. EPA requirements.

Note 3: ARB requires a test fuel of Phase III California Reformulated Certification fuel blended with 10 percent ethanol by weight (E10) with an RVP of 7.0. Requirements for Phase III California Reformulated Certification fuel can be found here: <http://www.arb.ca.gov/fuels/gasoline/Carfg3/carfg3.htm>.

**Please return this survey
by November 13, 2009.**

Mail to: Michele Dunlop, ARB/MLD
P.O. Box 2815
Sacramento, CA 95812

or Fax to: (916) 327-8217

ATTACHMENT 2
Cost Survey Instructions

ARB staff is specifically requesting an estimate of the increased manufacturing cost for producing Pleasure Craft that meets ARB proposed evaporative requirements. Please list and describe each of the emission control components in your proposed evaporative system and estimate the increased cost for each component. You may also submit a system diagram if further detail is needed.

If you manufacture vessels in more than one Pleasure Craft category (Inboard, Outboard, Jet Drive, or Sterndrive), please copy and fill out a separate form for each category.

Please refer to Attachment 1 and 3 for a summary of cost survey worksheet and ARB draft proposed standards. For more information about the U.S. EPA standards, you can access the U.S. EPA marine spark-ignition webpage at <http://www.epa.gov/OMS/marinesi.htm>

Please return the enclosed survey form by November 13, 2009.

If you have any questions regarding this request, please contact the following staff:

Scott Monday	(916) 445-9319	smonday@arb.ca.gov
Michele Dunlop	(916) 323-8971	mdunlop@arb.ca.gov

ATTACHMENT 3
Summary of Draft Proposal Requirements

Design Requirements							
	Under Cowl Fuel Hose Permeation (Grams/m ² /day ROG)	Fuel Hose Permeation (Grams/m ² /day ROG)	Fuel Tank Permeation (Grams/m ² /day ROG)	Diurnal Requirement (HC Grams/Gal/Day)	Fuel Injection	On- Board Refueling Vapor Recovery	Production Compliance
ARB Standards	15.0	5.0	0.6	0.25	Required	Required	All Pleasure Craft with Horsepower > 40 HP
Test Procedures*	40 CFR §1060.515	40 CFR §1060.515 with test temperature of 40° C	40 CFR §1060.520	40CFR§1060.525	N/A	ORVR Efficiency TP	

ROG = Reactive Organic Gases
HC = Hydrocarbons
N/A = Not Applicable

*U.S. EPA test procedures can be located at <http://www.epa.gov/OMS/marinesi.htm>. The ORVR efficiency test procedure can be found at <http://www.arb.ca.gov/msprog/offroad/recmarine/recmarine.htm>.

Please return the enclosed survey form by November 13, 2009.

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ATTACHMENT 4
Pleasure Craft Evaporative System Cost Survey

Background Information and ORVR Specifications:

Mandated under section 202(a)(6) of the 1990 Clean Air Act Amendments, ORVR systems have been implemented for automobiles since 1998 and have historically been canister-based. It is our assumption that a similar ORVR system will be applied to Pleasure Craft, and we would like your participation in proposing an ORVR system upon which a more stringent standard will be based. Foremost, we would like you to estimate your cost increase for manufacturing Pleasure Craft with an ORVR system.

In a canister-based ORVR system during refueling, the liquid gasoline displaces vapors and routes them to a canister that is packed with activated carbon. The vapors are temporarily stored in the canister until drawn into the engine and then ultimately burned. The ORVR system prevents refueling vapors from being released into atmosphere through the use of several components:

- Fill neck seal which will prevent vapors from escaping out of the fill neck
- Low permeation fuel line, vapor line(s), and fittings
- Fuel tank with a vent mechanism that routes the vapors from the fuel tank
- Canister(s) packed with activated carbon to collect and temporarily store vapors
- Purge system or mechanism to regenerate the carbon canister

As a Pleasure Craft builder, the ORVR system you propose in this cost survey may be comprised of the previously listed components and/or any other applicable technologies. Additionally, the proposed ORVR system should not exceed the federal refueling test standard of 0.2 grams of hydrocarbon emissions per gallon of fuel pumped (Reference: Code of Federal Regulations, 40 CFR, Part 86). Finally, the ORVR system must not rely on external vapor controls. For example, the use of a fill deck plate would not be acceptable because it relies upon the Phase II recovery system. Due to the longevity of Pleasure Craft, controlling refueling emissions must remain "onboard" in the event that Phase II vapor recovery no longer becomes a requirement. We strongly encourage your participation in this survey as it will allow industry the opportunity to design and propose an ORVR system.

Please return the enclosed survey form by November 13, 2009.

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